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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/002,835 | DANZYGER ET AL. | |
| | Examiner | Art Unit | |
| | Tom V. Sheng | 2677 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 10/18/2005.
2. ☒ The allowed claim(s) is/are 4-12.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Timothy P. Lucier on 11/17/05. The purpose is solely for further clarifying the independent claims.

In the claims:

Claim 4, line 14, after "is rotated", insert " and independent of the rate of rotation".

Claim 10, line 10, after "is rotated", insert " and independent of the rate of rotation".

Allowable Subject Matter

2. Claims 4-12 are allowed.

3. The following is an examiner's statement of reasons for allowance:

The claimed invention is directed to an input device that has a rotatable element for scrolling a graphical display. The rate of scrolling of the graphical display is constant and independent of the rate of rotation of the rotatable element. Specifically, a motion signal generator detects motion of the rotatable element and generates motion signals. A motion signal interpreter checks for generation of motion signals within a predetermined period of time and generates one output signal if at least one motion

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signal is detected. A software driver receives the output signal and generates a line scrolling command to scroll the graphical display.

Independent claim 4 identifies the uniquely distinct features “a motion signal interpreter in communication with the motion signal generator, the motion signal interpreter providing one output signal at the end of a predetermined period of time when one or more motion signals are detected within the predetermined period of time; and a software driver in communication with the motion signal interpreter wherein the software driver accepts output signals from the motion interpreter and generates line scrolling commands in response to reception of the output signals, wherein the scrolling rate of the graphical display is constant when the rotatable element is rotated and independent of the rate of rotation.”

Independent claim 10 identifies the uniquely distinct features “a motion signal interpreter having a memory buffer that stores motion signals generated by the motion signal generator for a predetermined period of time, said motion signal interpreter generates an output signal at the end of the predetermined period of time when one or more motion signals are detected within the predetermined period of time, wherein a line scrolling command for a graphical display is generated in response to each output signal and the scrolling rate of the graphical display is constant when the rotatable element is rotated and independent of the rate of rotation.”

Prior art Gillick et al. (US 5,530,455) teaches a computer mouse which implements a scrolling function. Scrolling is implemented by sending messages to a queue associated with a window kernel. Rapid turning of the roller generates pulses

which are stored in a buffer and interpreted as energy which is drawn from the buffer even after the roller stops turning so that scrolling continues until stopped or until the buffer is depleted. Thus, the faster the turning, the more energy is stored, which translates into a faster scroll rate, even after the roller motion stops. Gillick also teaches another mode wherein scrolling occurs without accumulating counts and would continue at a constant rate even after the roller stops rolling. The scrolling continues until a terminal event, such as if the roller is reversed, occurs. Neither of Gillick's scroll modes teaches above claimed interpretation method and line scrolling response.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

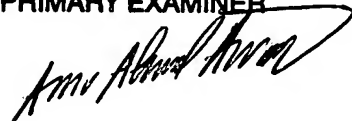
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
November 17, 2005

AMR A. AWAD
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'AMR A. AWAD', written over the printed name and title.